

WHAT IS CLAIMED IS:

1. A process for producing a diesel fuel fraction from bitumen comprises (i) stimulating the production of bitumen with steam obtained from a natural gas fed gas conversion process that produces a diesel hydrocarbon fraction and steam, (ii) upgrading said bitumen to lower boiling hydrocarbons, including a diesel fraction, and (iii) forming a mixture of both said diesel fractions.

2. A process according to claim 1 wherein diesel fraction produced by said gas conversion has a cetane number higher than that of said diesel fraction produced from said bitumen.

3. A process according to claim 2 wherein said steam comprises at least one of (i) high pressure steam and (ii) low pressure steam.

4. A process according to claim 3 wherein said diesel fraction produced from said bitumen contains heteroatom and unsaturated aromatic compounds.

5. A process according to claim 4 wherein said fraction produced from said bitumen is treated to reduce the amount of said heteroatom and unsaturated aromatic compounds.

6. A process according to claim 5 wherein said treatment occurs prior to said mixing.

7. A process according to claim 6 wherein said treatment comprises hydrotreating.

8. A process for producing a diesel fuel fraction from bitumen comprises the steps of (i) producing bitumen with steam stimulation, (ii) upgrading said bitumen to lower boiling hydrocarbons, including a sulfur-containing bitumen diesel fraction, (iii) treating said bitumen diesel fraction to reduce said sulfur content, and (iv) producing steam and hydrocarbons, including a diesel fraction, by means of a natural gas fed gas conversion process, wherein at least a portion of said steam is used for said bitumen production, and (v) treating at least a portion of said gas conversion diesel fraction to reduce its pour point.

9. A process according to claim 9 wherein at least a portion of both said diesel fractions are blended.

10. A process according to claim 9 wherein at least a portion of both said diesel fractions are blended subsequent to said treating.

11. A process according to claim 10 wherein said bitumen diesel fraction has a cetane content lower than said diesel fraction produced by said gas conversion.

12. A process according to claim 11 wherein said blend has a cetane number higher than that of said bitumen diesel fraction.

13. A process according to claim 12 wherein said bitumen upgrading comprises coking and fractionation.

14. A process according to claim 13 wherein said treatments comprise hydroisomerizing said gas conversion diesel fraction and hydrotreating said bitumen diesel fraction.

15. A process according to claim 14 wherein said hydrotreating, in addition to sulfur removal, also reduces the amount of other heteroatoms, aromatic unsaturates and metals present in said untreated bitumen diesel fraction.

16. A process according to claim 15 wherein said gas conversion also produces water and a tail gas useful as fuel used to make steam from said water.

17. A process for producing a diesel fuel fraction from bitumen comprises:

(i) converting natural gas to a hot synthesis gas comprising a mixture of H_2 and CO which is cooled by indirect heat exchange with water to produce steam;

(ii) contacting said synthesis gas with a hydrocarbon synthesis catalyst in one or more hydrocarbon synthesis reactors, at reaction conditions effective for said H_2 and CO in said gas to react and produce heat, liquid hydrocarbons including a diesel fuel fraction, and a gas comprising methane and water vapor;

(iii) removing heat from said one or more reactors by indirect heat exchange with water to produce steam;

(iv) hydroisomerizing at least a portion of said diesel fraction to reduce its pour point;

(v) passing at least a portion of said steam produced in either or both steps (i) and (iii) into a tar sand formation to heat soak and reduce the viscosity of said bitumen;

(vi) producing said bitumen by removing it from said formation;

(vii) upgrading said bitumen to produce lower boiling hydrocarbons, including a diesel fuel fraction containing heteroatom compounds;

(viii) hydrotreating said bitumen diesel fuel fraction to reduce its heteroatom content, and

(ix) combining at least a portion of each of said treated diesel fuel fractions.

18. A process according to claim 17 wherein said water vapor is removed from said gas to produce a fuel gas comprising methane and using said gas to further heat steam used for said bitumen stimulation.

19. A process according to claim 17 wherein said hydrogen is produced from said synthesis gas and used for said hydroisomerization.

20. A process according to claim 17 wherein said catalyst comprises a cobalt catalytic component.